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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/505,375	05/10/2005	Yuman Fong	08582/014002	5371

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EXAMINER	
WHITEMAN, BRIAN A	
ART UNIT	PAPER NUMBER
1635	

DATE MAILED: 07/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/505,375	FONG ET AL.	
	Examiner	Art Unit	
	Brian Whiteman	1635	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 May 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14,22 and 23* is/are pending in the application.

4a) Of the above claim(s) *14,22 and 23* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Final Rejection

Claims 1-14, 22 and 23 are pending.

Applicant's traversal, the amendment to the specification, and the amendment to claim 1 filed on 5/1/06 is acknowledged and considered by the examiner.

Election/Restrictions

This application contains claims 14, 22 and 23 drawn to an invention nonelected and cytotoxins, tumor antigens, antisense nucleic acid molecules and ribozymes in claim 11 and biological therapy, radiation therapy, and gene therapy in claim 13 with traverse in Paper No. 11/17/05. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 2, 6, and 8-13 remain rejected under 35 U.S.C. 102(e) as being anticipated by Fong et al. (US 20020071832, cited on a PTO-1449).

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Fong teaches a method of resecting a tumor from a patient and injecting a virus into the tumor bed to ensure destruction of any remaining tumor cells (page 5). Fong teaches the limitation in instant claim 6 (page 4). Fong teaches the limitation in claim 8 (page 5). Fong teaches the limitation in instant claim 10 and 11 (page 4). Fong teaches the limitation in claims 12 and 13 (page 6).

Applicant's arguments filed 5/1/06 have been fully considered but they are not persuasive.

With respect to applicant's argument that the claimed method is different with respect to location and nature of the target tumor cells from that mention in the cited reference, the argument is not found persuasive because the material and method step(s) recited in the Fong are the same material and method step(s) recited in the claimed method. See In re Sasse, 629 F.2d 675, 207 USPQ 107 (CCPA 1980). There is nothing in the recited method steps or material used that differentiates the claimed invention from the method taught in the prior art. See In re King, 801 F.2d 1324, 231 USPQ 136 (Fed. Cir. 1986).

Claims 1, 2, 3, 6, 8, 9, and 12-13 remain rejected under 35 U.S.C. 102(e) as being anticipated by Molnar-Kimber et al. (US 6,428,968, cited on PTO-1449). Molnar-Kimber teaches killing tumor cells of a subject comprising administering a replication-competent herpes virus and a chemotherapeutic agent to the subject (columns 21-24). The method can be used following surgical excision or for inhibiting growth of immature metastases by killing tumor cells distributed throughout the body (column 2). Molnar-Kimber teaches the limitation in claim 6 (columns 2 and 21-24). Molnar-Kimber teaches the limitation in claim 8 (column 23).

Applicant's arguments filed 5/1/06 have been fully considered but they are not persuasive.

With respect to applicant's argument that Molnar-Kimber does not teach the claimed method, the argument is not found persuasive because the material and method step(s) recited in the Molnar Kimber are the same material and method step(s) recited in the claimed method. See In re Sasse, 629 F.2d 675, 207 USPQ 107 (CCPA 1980). There is nothing in the recited method steps or material used that differentiates the claimed invention from the method taught in the prior art. See In re King, 801 F.2d 1324, 231 USPQ 136 (Fed. Cir. 1986).

With respect to applicant's argument that the discussion of killing tumors following surgical excision for inhibiting growth of immature metastases by killing tumor cells distributed throughout the body is in the section of the patent describing the state of the art, the argument is not found persuasive "The use of patents as references is not limited to what the patentees describe as their own inventions or to the problems with which they are concerned. They are part of the literature of the art, relevant for all they contain." In re Heck, 699 F.2d 1331, 1332-33,

216 USPQ 1038, 1039 (Fed. Cir. 1983) (quoting In re Lemelson, 397 F.2d 1006, 1009, 158 USPQ 275, 277 (CCPA 1968)).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 6, and 7 remain rejected under 35 U.S.C. 103(a) as being obvious over Fong et al. (US 20020071832, cited on a PTO-1449) taken with Wong et al. (Human Gene Therapy, 253-265, 2001, cited on a PTO-1449).

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(l)(1) and § 706.02(l)(2).

Fong teaches a method of resecting a tumor from a patient and injecting a virus into the tumor bed to ensure destruction of any remaining tumor cells (page 5). Destruction of any remaining tumor cells would read on the preamble of the claim because destruction of remaining tumor cells would prevent tumor cells from metastasizing form the tumor bed. Fong teaches the limitation in instant claim 6 (page 4). However, Fong does not specifically using the NV1023 as the herpes virus in the method.

However, at the time the invention was made, that NV1023 is an oncolytic HSV vector designed to express the murine GM-CSF and murine IL-12 genes and NV1023 demonstrated infection efficiency, viral replication and cytotoxicity comparable to other HSV (page 253).

It would have been *prima facie* obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Fong taken with Wong, namely to use NV1023 in the method taught by Fong. One of ordinary skill in the art would have been motivated to use NV1023 as the oncolytic herpes virus in the method because NV1023 was readily available to one of ordinary skill in the art for use in treating cancer in a subject and would save time for one of ordinary skill in the art from constructing and testing another attenuated, replication-competent, oncolytic herpes virus.

Therefore the invention as a whole would have been *prima facie* obvious to one ordinary skill in the art at the time the invention was made.

Applicant's arguments filed 5/1/06 have been fully considered but they are not persuasive.

With respect to applicant's argument that the claimed method is different with respect to location and nature of the target tumor cells from that mention in the cited reference, the argument is not found persuasive because the material and method step(s) recited in the Fong are the same material and method step(s) recited in the claimed method. See In re Sasse, 629 F.2d 675, 207 USPQ 107 (CCPA 1980). There is nothing in the recited method steps or material used that differentiates the claimed invention from the method taught in the prior art. See In re King, 801 F.2d 1324, 231 USPQ 136 (Fed. Cir. 1986).

With respect to applicant's argument that prior to the present invention, the surprising activity of herpes simplex viruses in treating metastases was not known or predictable, the argument is not found persuasive because other than the assertion "that prior to the present invention, the surprising activity of herpes simplex viruses in treating metastases was not known or predictable", there is no evidence of record to support applicant's assertion. "The arguments of counsel cannot take the place of evidence in the record." In re Schulze, 346 F.2d 600, 602, 145 USPQ 716, 718 (CCPA 1965); In re Geisler, 116 F.3d 1465, 43 USPQ2d 1362 (Fed. Cir. 1997). US 6,379,674 and 6,764,675 teach that when HSV is administered to a patient or subject, inhibits tumor growth, causes tumor regression, prevents metastasis or spread of the tumor.

Claims 1, 6, 7, and 10-11 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Molnar-Kimber et al. (US 6,428,968, cited on a PTO-1449) taken with Wong et al. (Human Gene Therapy, 253-265, 2001, cited on a PTO-1449). Molnar-Kimber teaches killing tumor cells of a subject comprising administering a replication-competent herpes virus and a chemotherapeutic agent to the subject (columns 21-24). The method can be used following surgical excision or for inhibiting growth of immature metastases by killing tumor cells distributed throughout the body (column 2). Molnar-Kimber teaches the limitation in claim 6 (columns 2 and 21-24). Molnar-Kimber teaches the limitation in claim 8 (column 23). However, Molnar-Kimber does not specifically using the NV1023 as the herpes virus in the method.

However, at the time the invention was made, that NV1023 is an oncolytic HSV vector designed to express the murine GM-CSF and murine IL-12 genes and NV1023 demonstrated

infection efficiency, viral replication and cytotoxicity comparable to other HSV (page 253). The vector is used to enhance treating tumor in a subject (page 253).

It would have been *prima facie* obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Molnar-Kimber taken with Wong, namely to use NV1023 in the method taught by Molnar-Kimber. One of ordinary skill in the art would have been motivated to use NV1023 as the oncolytic herpes virus in the method because NV1023 was readily available to one of ordinary skill in the art for use in treating cancer in a subject and would enhance the method. In addition, using NV1023 would save time for one of ordinary skill in the art from constructing and testing an attenuated, replication-competent, oncolytic herpes virus.

It would have been *prima facie* obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Molnar-Kimber taken with Wong, namely to use NV1023 expressing GM-CSF or IL-12 in the method taught by Molnar-Kimber. One of ordinary skill in the art would have been motivated to use NV1023 to enhance the method of treating cancer in a subject.

Therefore the invention as a whole would have been *prima facie* obvious to one ordinary skill in the art at the time the invention was made.

Applicant's arguments filed 5/1/06 have been fully considered but they are not persuasive.

With respect to applicant's argument that Molnar-Kimber does not teach the claimed method, the argument is not found persuasive because the material and method step(s) recited in the Molnar Kimber are the same material and method step(s) recited in the claimed method. See

In re Sasse, 629 F.2d 675, 207 USPQ 107 (CCPA 1980). There is nothing in the recited method steps or material used that differentiates the claimed invention from the method taught in the prior art. See In re King, 801 F.2d 1324, 231 USPQ 136 (Fed. Cir. 1986).

With respect to applicant's argument that the discussion of killing tumors following surgical excision for inhibiting growth of immature metastases by killing tumor cells distributed throughout the body is in the section of the patent describing the state of the art, the argument is not found persuasive "The use of patents as references is not limited to what the patentees describe as their own inventions or to the problems with which they are concerned. They are part of the literature of the art, relevant for all they contain." In re Heck, 699 F.2d 1331, 1332-33, 216 USPQ 1038, 1039 (Fed. Cir. 1983) (quoting In re Lemelson, 397 F.2d 1006, 1009, 158 USPQ 275, 277 (CCPA 1968)).

Claims 1 and 3-5 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Cole et al. (US 5,162,231) taken with Molnar-Kimber et al. (US 6,428,968) in further view of Johnston et al. (Ann. Thorac. Surg. 2001; 71:1120-5). Cole teaches:

> Treatment of lung cancer has largely been unsuccessful and at times controversial. The practice of surgically resecting the tumor is the most successful of all treatments; however, in most cases the malignant lesions recur or metastasize. The use of radiotherapy and chemotherapy have also had limited success in prolonging the life of lung cancer patients. In fact, the median survival for a patient with small cell lung carcinoma, who is treated with chemotherapy and with or without radiation therapy is 10-

15 months in patients with "limited" disease, and 7-11 months in patients with "extensive" disease. See column 1.

However, Cole does not specifically teach administering an attenuated replication competent oncolytic herpes virus to the site of the surgical resection.

However, at the time the invention was made, Molnar-Kimber teaches killing tumor cells of a subject comprising administering a replication-competent herpes virus and a chemotherapeutic agent to the subject (columns 21-24). The method can be used following surgical excision or for inhibiting growth of immature metastases by killing tumor cells distributed throughout the body (column 2). Molnar-Kimber teaches that the method is for enhancing the treatment of lung cancer in a subject (column 3).

In addition, at the time the invention was made, Johnston teaches that a lung tumor spreads to lymph nodes (page 1120).

It would have been *prima facie* obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Cole taken with Molnar-Kimber in further view of Johnston, namely to administer an attenuated replication competent oncolytic herpes virus to the site of surgical resection in a lung. One of ordinary skill in the art would have been motivated to combine the teaching to enhance the treatment of lung cancer in a subject, wherein the lung cancer has be resected.

In addition, it would have been *prima facie* obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Cole taken with Molnar-Kimber in further view of Johnston, namely to treat cancer that has metastasized from the lung to the lymph node of the subject. One of ordinary skill in the art would have been motivated to

combine the teaching to enhance the treatment of lung cancer that has metastasized to the lymph node because one of ordinary skill in the art understands that lung cancer spreads to the lymph nodes as exemplified by Johnston (page 1120) and Molnar-Kimber teaches using herpes virus and a chemotherapeutic agent for inhibiting growth of immature metastases by killing tumor cells distributed throughout the body.

Therefore the invention as a whole would have been *prima facie* obvious to one ordinary skill in the art at the time the invention was made.

Applicant's arguments filed 5/1/06 have been fully considered but they are not persuasive.

With respect to applicant's argument that Molnar-Kimber does not teach the claimed method, the argument is not found persuasive because the material and method step(s) recited in the Molnar Kimber are the same material and method step(s) recited in the claimed method. See In re Sasse, 629 F.2d 675, 207 USPQ 107 (CCPA 1980). There is nothing in the recited method steps or material used that differentiates the claimed invention from the method taught in the prior art. See In re King, 801 F.2d 1324, 231 USPQ 136 (Fed. Cir. 1986).

With respect to applicant's argument that the discussion of killing tumors following surgical excision for inhibiting growth of immature metastases by killing tumor cells distributed throughout the body is in the section of the patent describing the state of the art, the argument is not found persuasive "The use of patents as references is not limited to what the patentees describe as their own inventions or to the problems with which they are concerned. They are part of the literature of the art, relevant for all they contain." In re Heck, 699 F.2d 1331, 1332-33,

216 USPQ 1038, 1039 (Fed. Cir. 1983) (quoting In re Lemelson, 397 F.2d 1006, 1009, 158 USPQ 275, 277 (CCPA 1968)).

Response to Arguments

Applicant's arguments, see page 7, filed 5/1/06, with respect to new matter have been fully considered and are persuasive. The rejection of 1-3 and 6-13 has been withdrawn because applicant has pointed out where the limitation is supported in the specification.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Whiteman whose telephone number is (571) 272-0764.

The examiner can normally be reached on Monday through Friday from 7:00 to 4:00 (Eastern Standard Time), with alternating Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Paras, SPE – Art Unit 1635, can be reached at (571) 272-4517.

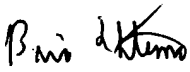
Papers related to this application may be submitted to Group 1600 by facsimile transmission. Papers should be faxed to Group 1600 via the PTO Fax Center. The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The Fax Center number is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to (571) 272-0547.

Patent applicants with problems or questions regarding electronic images that can be viewed in the Patent Application Information Retrieval system (PAIR) can now contact the USPTO's Patent Electronic Business Center (Patent EBC) for assistance. Representatives are available to answer your questions daily from 6 am to midnight (EST). The toll free number is (866) 217-9197. When calling please have your application serial or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of the problem. The Patent Electronic Business Center will notify applicants of the resolution of the problem within 5-7 business days. Applicants can also check PAIR to confirm that the problem has been corrected. The USPTO's Patent Electronic Business Center is a complete service center supporting all patent business on the Internet. The USPTO's PAIR system provides Internet-based access to patent application status and history information. It also enables applicants to view the scanned images of their own application file folder(s) as well as general patent information available to the public.

For all other customer support, please call the USPTO Call Center (UCC) at 800-786-9199.

Brian Whiteman



BRIAN WHITEMAN
PATENT EXAMINER